



Equal Access: Universal Design of Instruction

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The universal design of instruction—where universal design (UD) principles are applied in selecting and developing curriculum, choosing and implementing teaching methods, and developing assessments—is gaining increased attention by educational researchers and practitioners at K-12 and postsecondary levels. UD means that, rather than designing your instruction for the average student, you design for potential students with a broad range of abilities, disabilities, ages, reading levels, learning styles, native languages, races, ethnicities, and other characteristics. Universal design of instruction can be discussed as a goal, as a set of strategies applied to specific aspects of instruction, or as a process.

The Process

To implement this process, an instructor can select appropriate strategies for the delivery of instruction and then apply universal design to specific activities within a class. Specifically, the instructor needs to

1. *Identify the course.* Select the course, goals, and overall content for the course.
2. *Define the universe.* Describe the overall population of students (e.g., prerequisites for enrolling) who might take the course and then consider the diverse characteristics of potential students (e.g., characteristics with respect to gender, age, size, ethnicity / race, native language, learning style, socioeconomic status, and abilities to see, hear, move and manipulate objects, and learn).
3. *Select standards for good practice.* Adopt good teaching practices.
4. *Adopt UD guidelines.* Create or select existing UD guidelines / standards. Integrate UD practices with other best teaching practices.
5. *Apply guidelines/standards.* Apply universal design along with design principles and standards for good teaching practice to the overall design of instruction (e.g., choices of lecture, discussion, cases, online notes), instructional methods, and curriculum materials (e.g., website) to maximize the learning of students with the wide variety of characteristics identified in Step 2).
6. *Plan for accommodations.* Develop processes to address accommodation requests (e.g., arrangement for sign language interpreters, creation of alternate format) of specific students for whom the course design does not automatically provide access.
7. *Evaluate.* On an ongoing basis, monitor the effectiveness of the instruction by gathering feedback from students with a diverse set of characteristics, assess learning, and modify the course based on their feedback.

UDI Strategies

To apply universal design, instructors should consider the potential variation in individual skills, learning styles and preferences, age, gender, culture, abilities, and disabilities as they select instructional strategies and apply the following guidelines, put together by consulting publications of leaders in the field of universal design of instruction.

The following checklist can guide you in making your course universally accessible. Your disabled student services office may also be able to assist you in increasing the accessibility of your unit. This content does not provide legal advice. Consult your campus legal counsel or ADA/504 compliance officer regarding relevant legal issues. Consultation with your regional Office for Civil Rights (OCR) can also help clarify issues.



Class Climate

Adopt practices that reflect high values with respect to *both* diversity and inclusiveness.

- *Welcome everyone.* Create a welcoming environment for all students. Encourage the sharing of multiple perspectives. Demonstrate and demand mutual respect.
- *Avoid stereotyping.* Offer instruction and support based on student performance and requests, not simply on assumptions that members of certain groups (e.g., students with certain types of disabilities or from specific racial/ethnic groups) will automatically do well or poorly.
- *Motivate all students.* Use teaching methods and materials that are motivating and relevant to students with diverse characteristics with respect to age, gender, culture, etc.
- *Be approachable and available.* Learn students' names. Welcome questions in and outside of class, seek out a student's point of view, and patiently respond. Maintain regular office hours and work around student schedule conflicts with them.
- *Address individual needs in an inclusive manner.* Make statements on the syllabus and in class inviting students to meet with you to discuss disability-related accommodations and other learning needs. Avoid segregating or stigmatizing any student by drawing undue attention to a difference (e.g., disability) or sharing private information (e.g., a specific student's need for an accommodation).

Physical Environments/Products

Assure that activities, materials, and equipment are physically accessible to and usable by all students and that all potential student characteristics are addressed in safety considerations.

- *Assure physical access to facilities.* Use classrooms, labs, workspaces, and fieldwork sites that are accessible to individuals with a wide range of physical abilities.

- *Arrange instructional spaces to maximize inclusion and comfort.* Arrange seating to encourage participation, giving each student a clear line of sight to the instructor and visual aides and allowing room for wheelchairs, personal assistants, and assistive technology. Minimize distractions for students with a range of abilities to pay attention (e.g., put small groups in quiet work areas).
- *Assure everyone can use equipment and materials.* Minimize nonessential physical effort and provide options for operation of equipment, handles, locks, cabinets and drawers from different heights, with different physical abilities, with one hand, and by right- and left-handed students in workspaces. Use large print to clearly label controls on lab equipment and other educational aides, using symbols as well as words and provide straightforward, simple oral and printed directions for operation and use.
- *Assure safety.* Develop procedures for all students, including those who are blind, deaf, or wheelchair users. Label safety equipment simply, in large print, and in a location viewable from a variety of angles. Repeat printed directions orally.

Delivery Methods

Use multiple teaching methods that are accessible to all learners.

- *Provide multiple ways to gain knowledge.* Use multiple modes to deliver content and motivate and engage students—consider lectures, collaborative learning options, hands-on activities, Internet-based communications, educational software, fieldwork, etc.
- *Make each teaching method accessible to all students.* Make each instructional method accessible to students with a wide range of abilities, disabilities, interests, learning styles, and previous experiences. Provide



the same means of participation to all students, identical when possible, equivalent when not.

- *Select flexible curriculum.* Choose textbooks and other curriculum materials that address the needs of students with diverse abilities, interests, learning styles and preferences, and other characteristics. Assure that curriculum materials are well organized, emphasize important points, provide references for gaining background knowledge, and have study questions and/or practice exercises, chapter outlines, comprehensive indexes, and glossaries. Consider technology-based materials that provide prompting, regular feedback, opportunities for multiple levels of practice, and access to background information, vocabulary and other supports based on student responses.
- *Use large visual and tactile aides.* Make visual aides as large as reasonable (e.g., use large, bold fonts on uncluttered overhead displays and connect a microscope to computer display screens to enlarge images). Use manipulatives to demonstrate content.
- *Deliver instructions clearly and in multiple ways.* Provide instructions both orally and in printed form. Ask for questions and have students repeat directions, and give feedback.
- *Provide cognitive supports.* Summarize major points, give background / contextual information, provide effective prompting, provide scaffolding tools (e.g., provide outlines, class notes, summaries, study guides, copies of projected materials with room for note-taking) and other cognitive supports. Deliver these materials in printed form and in a text-based electronic format. Provide opportunities for gaining further background information and vocabulary and different levels of practice with variable levels of support.

- *Make content relevant.* Put learning in context. Create and update course content and provide multiple examples of specific concepts to make them relevant to individuals with diverse characteristics with respect to age, ability, gender, ethnicity, race, socio-economic status, interests, etc.

Information Resources/Technology

Assure that course materials, notes, and other information resources are designed to be intuitive, flexible, and available in formats accessible to all students.

- *Select materials early.* Choose printed materials and prepare a syllabus early to allow potential students the option of beginning to read materials and work on assignments before the class begins and to allow adequate time to arrange for alternate formats, such as books on tape (which for textbooks can take longer than a month).
- *Use multiple, redundant presentations of content that use multiple senses.* Use a variety of visual aides and manipulatives.
- *Provide all materials in accessible formats.* Use textbooks that are available in digital, accessible format and with flexible features. Provide the syllabus and other teacher-created materials in text-based, accessible electronic format. Use captioned videos and provide transcriptions for audio presentations. Apply accessibility standards to websites. Adhere to accessibility guidelines or standards adopted by your institution or state. *Section 508 Standards for Accessible Electronic and Information Technology* (<http://www.access-board.gov/sec508/guide/>) and the *World Wide Web Consortium's Accessibility Guidelines* (<http://www.w3.org/WAI/>) are most commonly used.
- *Accommodate a wide variety of reading levels and language skills.* Present content in a logical, straightforward manner and in an order that reflects levels of importance. Avoid unnecessary jargon and complex-



ity. Create materials in simple, intuitive formats that are consistent with the expectations and intuitions of students with a diverse set of characteristics.

- *Assistive technology.* If computer or science labs are used, assure that assistive technology for students with disabilities is available or can be readily acquired.

For specific guidelines for online content, consult the video and publication *Real Connections: Making Distance Learning Accessible to Everyone* at http://www.washington.edu/doit/Video/real_con.html.

Interaction

Encourage interactions between students and the instructor and assure that communication methods are accessible to all participants.

- *Promote effective communication with you.* Face the class, speak clearly, use a microphone if your voice does not project adequately for all students, and make eye contact with all students. Use straightforward language and minimize unnecessary jargon and complexity in electronic and written communications. Use student names in communications. Employ interactive teaching techniques. Be available for online communication and encourage students to visit you during office hours; consider making a student-instructor meeting a course requirement.
- *Encourage cooperative learning.* Assign group work where learners must support each other and that places a high value on different skills and roles. Encourage different ways for students to interact with each other—e.g., in-class questions and discussion, group work, Internet-based communications.
- *Make interactions accessible to all participants.* For example, do not use a telephone conference unless all students expected to participate can participate given their abilities to hear, speak, and meet the schedule requirements. Also require that

small groups communicate in ways that are accessible to all group members.

Feedback

Provide specific feedback on a regular basis.

- *Provide feedback and corrective opportunities.* Allow students to turn in parts of large projects for feedback before the final project is due. Give students resubmission options to correct errors in assignment and/or exams.
- *Arrange for peer feedback.* Have students review each others' work before assignments are submitted and graded.

Assessment

Regularly assess student progress using multiple, accessible methods and tools and adjust instruction accordingly.

- *Set clear expectations.* Create a straightforward and comprehensive grading rubric. Provide a syllabus with clear statements of course expectations; assignment descriptions, deadlines, and expectations; and assessment methods and dates. Keep academic standards consistent for all students, even for those who require accommodations.
- *Provide multiple ways to demonstrate knowledge.* Assess group/cooperative performance as well as individual achievement. Consider traditional tests with a variety of test item formats (e.g., multiple choice, essay, short answer), papers, group work, demonstrations, portfolios, and presentations as options for demonstrating knowledge, providing students choices in assessment methods and/or allowing students to use information technology to complete exams.
- *Monitor and adjust.* Regularly, informally (e.g., class discussion) and/or formally (e.g., through frequent, short exams), assess background knowledge and current learning of students and adjust instructional content and methods accordingly.



- *Test in the same manner in which you teach.*
Assure that a test measures what students have learned, not their ability to adapt to a new format or style of presentation.
- *Minimize time constraints when appropriate.*
Plan for variety in pace of learning and completion of work by announcing assignments well in advance of due dates. Allow extended time on tests and projects, unless speed is an essential outcome of instruction.

Accommodation

Plan for accommodations for students for whom the instructional design does not meet their needs.

- *Know how to arrange for accommodations.*
Know how to get materials in alternate formats, reschedule classroom locations, and arrange for other accommodations for students with disabilities. Make sure that assistive technology can be made available in a computer or science lab in a timely manner.

For more examples of UDI consult CAST, <http://www.cast.org/udl/>; FacultyWare, <http://www.facultyware.uconn.edu/home.cfm>; and Fast Facts for Faculty on UDL, <http://telr.osu.edu/dpg/fastfact/undesign.html>.

Checklist Updates and Resources

The checklist in this publication is a working document. To increase its usefulness, send suggestions to sherylb@u.washington.edu. For more information about universal design of instruction, principles of universal design, and resources for UDI, consult the publication *Universal Design of Instruction: Definition, Principles, and Examples* at <http://www.washington.edu/doit/Brochures/Academics/instruction.html>. Consult *Equal Access: Universal Design of Student Services* at http://www.washington.edu/doit/Brochures/Academics/equal_access_ss.html for a checklist for mak-

ing a tutoring and learning center or other student service accessible to students with disabilities.

About DO-IT

DO-IT (Disabilities, Opportunities, Internet-working, and Technology) serves to increase the successful participation of individuals with disabilities in challenging academic programs such as those in science, engineering, mathematics, and technology. Primary funding for DO-IT is provided by the National Science Foundation, the State of Washington, and the U.S. Department of Education. This publication and the accompanying video are based on work supported by the U.S. Department of Education (grant #P333A020044). However, these contents do not necessarily represent the policy of the Department of Education, and you should not assume endorsement by the Federal Government. For further information, to be placed on the DO-IT mailing list, or to request materials in an alternate format, contact:

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Communication Hints

Treat people with disabilities with the same respect and consideration with which you treat others. There are no strict rules when it comes to relating to people with disabilities. However, here are some helpful hints.

General

- Ask a person with a disability if he/she needs help before providing assistance.
- Talk directly to the person with a disability, not through the person's companion or interpreter.
- Refer to a person's disability only if it is relevant to the conversation. If so, mention the person first and then the disability. "A man who is blind" is better than "a blind man" because it puts the person first.
- Avoid negative descriptions of a person's disability. For example, "a person who uses a wheelchair" is more appropriate than "a person *confined* to a wheelchair." A wheelchair is not confining— it's liberating!
- Ask for permission before you interact with a person's guide dog or service dog.

Blind or Low Vision

- Be descriptive. Say, "The computer is about three feet to your left," rather than "The computer is over there."
- Speak all of the content presented with overhead projections and other visuals.
- When guiding people with visual impairments, offer them your arm rather than grabbing or pushing them.

Learning Disabilities

- Offer directions/instruction both orally and in writing. If asked, read instructions to individuals who have specific learning disabilities.

Mobility Impairments

- Sit or otherwise position yourself at the approximate height of people sitting in wheelchairs when you interact.

Speech Impairments

- Listen carefully. Repeat what you think you understand and then ask the person with a speech impairment to clarify and/or repeat the portion that you did not understand.

Deaf or Hard of Hearing

- Face people with hearing impairments so they can see your lips. Avoid talking while chewing gum or eating.
- Speak clearly at a normal volume. Speak louder only if requested.
- Use paper and pencil if the person who is deaf does not read lips or if more accurate communication is needed.
- In groups raise hands to be recognized, so the person who is deaf knows who is speaking. Repeat questions from audience members.
- When using an interpreter, speak directly to the person who is deaf; when an interpreter voices what a person who is deaf signs, look at the person who is deaf, not the interpreter.

Psychiatric Impairments

- Provide information in clear, calm, respectful tones.
- Allow opportunities for addressing specific questions.